11. Creative Effects

Objectives

- Identify the **sound of creative effects** in popular music
- Discuss how **specific creative effects are created**

Skills Development

- Aural recognition of effects

Key Words

Talkbox
Vocoder
Carrier
Modulating Signal
Ring Modulation
Frequency Products
Pitch Correction
Response Time
Scale
Pan
Pitch Shift
Harmoniser
Cents

Talkbox

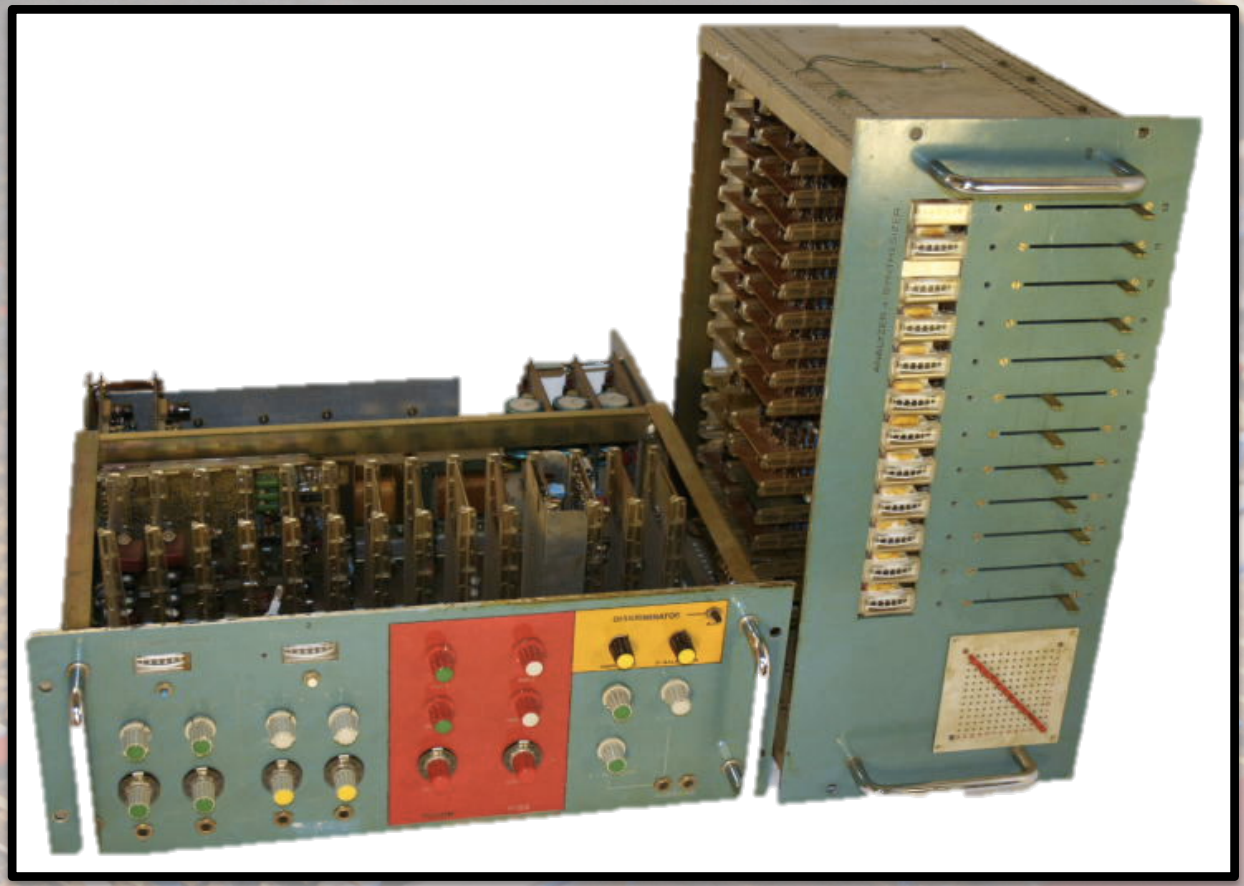
- A talkbox uses the mouth to **change / shape the frequency content** of sound
- The musician uses a **tube** and changes the **shape of their mouth**; this is mirrored in the frequency change in the original audio

Talkbox

Vocoder

- A vocoder analyses the vocal signal and **applies it to a synth timbre**
- Sounds **‘robotic’** and the voice **follows the pitch** from the synth

Vocoder



Early 1970s Vocoder built for Kraftwerk

Ring Modulation

- Ring modulation is a dissonant effect that creates **metallic and ringing sounds**
- It creates **frequency products** by adding and subtracting the input frequencies

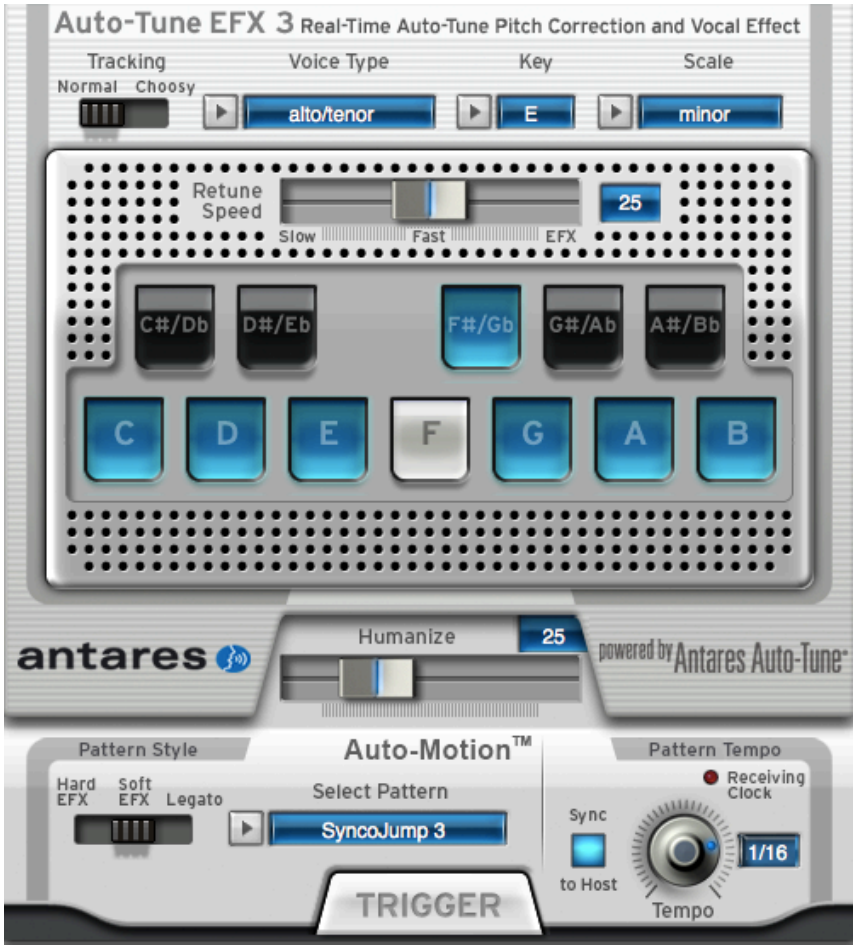
Ring Modulation

Pitch Correction (AutoTune)

- Overuse of pitch correction or autotune (a **quick response time) forces the note to the nearest pitch** set by the user / scale

- It is often **over-used in R&B** music to create a slightly robotic effect, or **subtly to keep vocalists in tune**.

Pitch Correction (AutoTune)



Stereo Effects

- Pan – comes from **‘panorama’** in cinema
- **Auto-pan** controls the place in the stereo field and is used to **introduce creative panning** throughout the stereo field
- In tracks from the 60s and 70s, tracks were often **extreme panned** due to the **limitations of technology.**

Pitch Shift and Harmonisers

- A pitch shift **alters frequencies** and **changes the musical note** that is played.
- **Harmonisers are intelligent pitch shifters** that can add a musical interval to a part (e.g. a 3rd above).
- These effects would have been **created historically** by **slowing down or speeding up a tape.**